Intel® Server Board SE7520BD2 User Guide

A Guide for Technically Qualified Assemblers of Intel® Identified Subassemblies/Products

Order Number: C51518-006

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Intel server boards contain a number of high-density VLSI and power delivery components that need adequate airflow for cooling. Intel's own chassis are designed and tested to meet the intended thermal requirements of these components when the fully integrated system is used together. It is the responsibility of the system integrator that chooses not to use Intel developed server building blocks to consult vendor datasheets and operating parameters to determine the amount of airflow required for their specific application and environmental conditions. Intel Corporation can not be held responsible if components fail or the server board does not operate correctly when used outside any of their published operating or non-operating limits.

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Preface

About this Manual

Thank you for purchasing and using the Intel® Server Board SE7520BD2. Six versions of this server board are available. These boards have the following product codes:

- Product code SE7520BD2
- Product code SE7520BD2SCSI
- Product code SE7520BD2V
- Product code SE7520BD2SCSID2
- Product code SE7520BD2VD2
- Product code SE7520BD2SATAD2

This manual applies to each of these products.

NOTES

Most diagrams in this manual show product code SE7520BD2. Where necessary to complete a procedure, differences are noted.

This manual is written for system technicians who are responsible for troubleshooting, upgrading, and repairing this server board. This document provides a brief overview of the features of the board/chassis, a list of accessories or other components you may need, troubleshooting information, and instructions on how to add and replace components on the Intel® Server Board SE7520BD2. For the latest version of this manual, refer to http://support.intel.com/support/motherboards/server/SE7520BD2/.

Manual Organization

Chapter 1 provides a brief overview of the Intel® Server Board SE7520BD2. In this chapter, you will find a list of the server board features, photos of the product, and product diagrams to help you identify components and their locations.

Chapter 2 provides instructions on adding and replacing components. Use this chapter for step-by-step instructions and diagrams for installing or replacing components such as the memory, processor, and the battery, among other components.

Chapter 3 provides instructions on using the utilities that are shipped with the board or that may be required to update the system. This includes how to navigate through the BIOS Setup screens, how to perform a BIOS update, and how to reset the password or CMOS. Information about the specific BIOS settings and screens is available in the Intel® Server Board SE7520BD2 Technical Product Specification.

Chapter 4 provides troubleshooting information. In this chapter, you will find BIOS error messages and POST code messages. You will also find suggestions for performing troubleshooting activities to identify the source of a problem.

Product Accessories

These server boards are compatible with the following Intel® Server Chassis:

- Intel® Server Chassis SC5300
- Intel® Server Chassis SC5300 BRP
- Intel® Server Chassis SC5300 LX
- Intel® Entry Server Chassis SC5275-E
- Intel® Entry Server Chassis SC5295-E DP
- Intel® Entry Server Chassis SC5295-E BRP

NOTES

The server chassis support varies by the version of the server board. To make sure you have the right server board / chassis combination, see "Server Chassis".

You may need or want to purchase one or more of the following accessory items for your server:

- Processor
- Memory DIMM
- Hard drive
- Floppy drive/CD-ROM drive/DVD-ROM drive
- RAID controller
- Operating system

For information about which accessories, memory, processors, and third-party hardware have been tested and can be used with your board, look for the Tested Hardware and Operating System List. For ordering information for the server board, check the Spares and Configuration Guide Document.

Additional Information and Software

If you need more information about this product or information about the accessories that can be used with this server board, use the following resources:

For this information or software	Obtain this document / software
For in-depth technical information about this product, including BIOS settings and chipset information	Intel® Server Board SE7520BD2 Technical Product Specification
If you just received this product and need to install it	Intel® Server Board SE7520BD2 Quick Start User's Guide located in the product box or to obtain a newer version, use this link: Quick Start User's Guide.
Accessories or other Intel server products	Spares and Configuration Guide Document
Hardware (peripheral boards, adapter cards) and operating systems that have been tested with this product	Tested Hardware and Operating System List
Chassis that have been tested with this product	Reference Chassis List

Processors that have been tested with this product	Supported Processor List
DIMMs that have been tested with this product	Tested Memory List
To make sure your system falls within the allowed power budget	Power Budget Tool
For software to manage your Intel® Server	Intel® Server Management Software
For firmware, BIOS updates, and drivers	Download Finder

To obtain the documents or software mentioned in the above table and for the latest product technical information, please go to:
http://support.intel.com/support/motherboards/server/SE7520BD2

Safety Information

Emissions Disclaimer

To ensure EMC compliance with your local regional rules and regulations, the final configuration of your end system product may require additional EMC compliance testing. For more information please contact your local Intel Representative.

See "Regulatory and Integration Information" for product safety compliance and EMC regulatory compliance information. This is an FCC Class A device. Integration of it into a Class B chassis does not result in a Class B device.

Intended Uses

This product was evaluated as Information Technology Equipment (ITE), which may be installed in offices, schools, computer rooms, and similar commercial type locations. The suitability of this product for other product categories and environments (such as: medical, industrial, telecommunications, NEBS, residential, alarm systems, test equipment, etc.), other than an ITE application, may require further evaluation

EMC Testing

Before computer integration, make sure that the chassis, power supply, and other modules have passed EMC testing using a server board with a microprocessor from the same family (or higher) and operating at the same (or higher) speed as the microprocessor used on this server board.

⚠ Warnings

Heed safety information: Before working with your server product, whether you are using this guide or any other resource as a reference, pay close attention to the safety instructions. You must adhere to the assembly instructions in this guide to ensure and maintain compliance with existing product certifications and approvals. Use only the described, regulated components specified in this guide. Use of other products / components will void the UL listing and other regulatory approvals of the product and will most likely result in noncompliance with product regulations in the region(s) in which the product is sold.

System power on/off: The power button DOES NOT turn off the system AC power. To remove power from system, you must unplug the AC power cord from the wall outlet. Make sure the AC power cord is unplugged before you open the chassis, add, or remove any components.

Hazardous conditions, devices and cables: Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the server and disconnect the power cord, telecommunications systems, networks, and modems attached to the server before opening it. Otherwise, personal injury or equipment damage can result.

Electrostatic discharge (ESD) and ESD protection: ESD can damage disk drives, boards, and other parts. We recommend that you perform all procedures in this chapter only at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground any unpainted metal surface on your server when handling parts.

ESD and handling boards: Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

Installing or removing jumpers: A jumper is a small plastic encased conductor that slips over two jumper pins. Some jumpers have a small tab on top that you can grip with your fingertips or with a pair of fine needle nosed pliers. If your jumpers do not have such a tab, take care when using needle nosed pliers to remove or install a jumper; grip the narrow sides of the jumper with the pliers, never the wide sides. Gripping the wide sides can damage the contacts inside the jumper, causing intermittent problems with the function controlled by that jumper. Take care to grip with, but not squeeze, the pliers or other tool you use to remove a jumper, or you may bend or break the stake pins on the board.

Safety Cautions

Read all caution and safety statements in this document before performing any of the instructions. See also *Intel Server Boards and Server Chassis Safety Information* on the Deployment CD and/or at http://support.intel.com/support/motherboards/server/sb/CS-010770.htm

Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warn- und Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und -Servergehäusen auf der Ressourcen-CD oder unter http://support.intel.com/support/motherboards/server/sb/CS-010770.htm

要安全指导

在执行任何指令之前，请阅读本文档中的所有注意事项及安全声明。参见 Resource CD （资源光盘） 和/或 http://support.intel.com/support/motherboards/server/sb/CS-010770.htm 上的 *Intel Server Boards and Server Chassis Safety Information*（《 Intel 服务器主板与服务器机箱安全信息》）。

Consignes de sécurité

Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez *Intel Server Boards and Server Chassis Safety Information* sur le CD Resource CD ou bien rendez-vous sur le site http://support.intel.com/support/motherboards/server/sb/CS-010770.htm

Instrucciones de seguridad importantes

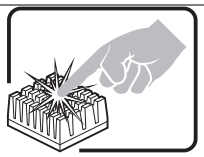
Lea todas las declaraciones de seguridad y precaución de este documento antes de realizar cualquiera de las instrucciones. Vea *Intel Server Boards and Server Chassis Safety Information* en el CD Resource y/o en http://support.intel.com/support/motherboards/server/sb/CS-010770.htm

AVVERTENZA: Italiano



PASSI DI SICUREZZA: Qualora si rimuovano le coperture del telaio per accedere all'interno del sistema, seguire i seguenti passi:

1. Spegnere tutti i dispositivi periferici collegati al sistema.
2. Spegnere il sistema, usando il pulsante spento/acceso dell'interruttore del sistema.
3. Togliere tutte le spine dei cavi del sistema dalle prese elettriche.
4. Identificare e sconnettere tutti i cavi attaccati ai collegamenti I/O od alle prese installate sul retro del sistema.
5. Qualora si tocchino i componenti, proteggersi dallo scarico elettrostatico (SES), portando un cinghia anti-statica da polso che è attaccata alla presa a terra del telaio del sistema – qualsiasi superficie non dipinta – .
6. Non far operare il sistema quando il telaio è senza le coperture.



Se il sistema è stato a lungo in funzione, il microprocessore e il dissipatore di calore potrebbero essere surriscaldati. Fare attenzione alla presenza di piedini appuntiti e parti taglienti sulle schede e sul telaio. È consigliabile l'uso di guanti di protezione.

Contents

1 Server Board Features 13

Connector and Header Locations 18
Product Codes SE7520BD2, SE7520BD2SCSI, SE7520BD2V 18
Product Codes SE7520BD2SCSID2, SE7520BD2VD2, SE7520BD2SATAD2 20
Configuration Jumpers 22
Back Panel Connectors 23
Hardware Requirements 24
Server Chassis 24
Processor 24
Memory 25

2 Hardware Installations and Upgrades 28

Before You Begin 28
Tools and Supplies Needed 28
Installing and Removing Memory 28
Installing DIMMs 29
Removing DIMMs 30
Installing or Replacing the Processor 30
Installing the Processor 31
Removing a Processor 34
Installing or Removing a PCI Card 34
Replacing the Backup Battery 35

3 Server Utilities 37

Using the BIOS Setup Utility 37
Starting Setup 37
If You Cannot Access Setup 37
Setup Menus 37
Upgrading the BIOS 39
Preparing for the Upgrade 39
Preparing Media and Performing the BIOS Upgrade 40
Crisis Recovery Diskette 41
Recovering the BIOS 42
Recovering the BIOS with the Crisis Recovery Diskette 42
Clearing the Password 44
Clearing the CMOS 45

4 Troubleshooting 46

Resetting the System 46
Problems following Initial System Installation 46
First Steps Checklist 46
Hardware Diagnostic Testing 47
Confirming Loading of the Operating System 48
Specific Problems and Corrective Actions 48
Power Light Does Not Light 48

No Characters Appear on Screen 49
Characters Are Distorted or Incorrect 50
System Cooling Fans Do Not Rotate Properly 50
Diskette Drive Activity Light Does Not Light 50
CD-ROM Drive or DVD-ROM Drive Activity Light Does Not Light 51
Cannot Connect to a Server 51
Problems with Network 51
System Boots when Installing PCI Card 52
Problems with Newly Installed Application Software 52
Problems with Application Software that Ran Correctly Earlier 52
Devices are not Recognized under Device Manager (Windows* Operating System) 53
Hard Drive(s) Are Not Recognized 53
Bootable CD-ROM Is Not Detected 53
LED Information 53
BIOS POST Beep Codes 54
Boot Block Error Beep Codes 54
POST Error Beep Codes 54

Regulatory and Compliance Information 56

Product Regulatory Compliance 56
Product Safety Compliance 56
Product EMC Compliance – Class A Compliance 56
Certifications/Registrations/Declarations 57
Product Regulatory Compliance Markings 57
Electromagnetic Compatibility Notices 58
FCC (USA) 58
Industry Canada (ICES-003) 59
Europe (CE Declaration of Conformity) 59
Taiwan Declaration of Conformity (BSMI) 59
Korean Compliance (RRL) 59

Getting Help 60

Intel® Server Issue Report Form 62

Figures

Figure 1. Intel® Server Board SE7520BD2 13
Figure 2. Product Codes SE7520BD2, SE7520BD2SCSI, and SE7520BD2V Connector and Header Locations 19
Figure 3. Product Codes SE7520BD2SCSID2, SE7520BD2VD2, and SE7520BD2SATAD2 Connector and Header Locations 21
Figure 4. Configuration Jumper Location 22
Figure 5. Back Panel Connectors 23
Figure 6. Installing Memory 29
Figure 7. Opening Socket Lever 31
Figure 8. Inserting Processor 31
Figure 9. Closing Socket Lever 32
Figure 10. Installing the Heat Sink 33
Figure 11. Replacing the Backup Battery 36
Figure 12. Recovery Boot Jumper 43
Figure 13. Password Clear Jumper 44
Figure 14. Clear CMOS Jumper 45

Tables

Table 1. Server Board Varieties 14
Table 2. Server Board Features 17
Table 3. Configuration Jumpers 22
Table 4. NIC LEDs 23
Table 5. Intel® Server Chassis Supported for each Server Board SE7520BD2 Product Code 24
Table 6. Keyboard Commands 38
Table 7. Boot Block Error Beep Codes 54
Table 8. POST Error Beep Codes 54
Table 9. BIOS Beep Codes 55
Table 10. Product Certification Markings 57

1 Server Board Features

This chapter briefly describes the main features of the Intel® Server Board SE7520BD2, provides a photograph of the product, a list of the server board features, and diagrams showing the location of important components and connections on the server board.

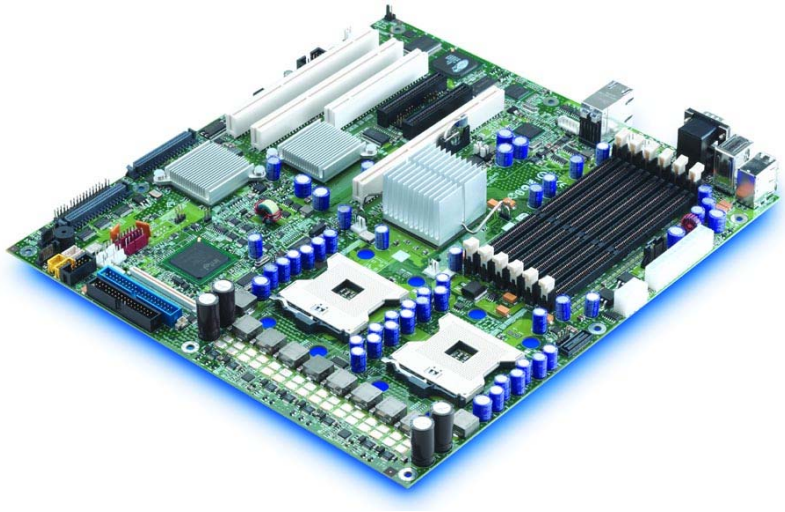


Figure 1. Intel® Server Board SE7520BD2

Six product codes for the Server Board SE7520BD2 are available. The following table provides an overview of the differences between them, by product code.

Table 1. Server Board Varieties

Product Code	Memory	PCI	SCSI	SATA	USB Connections
Product code SE7520BD2	Six DIMM sockets DDR 266/333 72-bit, 184-pin DIMMs Supported DIMM sizes: 256 MB, 512 MB, 1 GB, 2 GB, 4 GB 24 GB Maximum (when 4 GB DIMMs are available) Dual channel architecture Memory Mirroring Memory Sparing	One PCI Express* x8 One PCI Express x4 One PCI-X* 133MHz Two PCI-X 100MHz One PCI 32-bit / 33MHz 5V	N/A	Dual serial ATA channels with support for RAID 0 and 1. One IDE connector supporting two ATA/100 IDE channels.	Five: - Three at rear of board - Two at front of board
Product code SE7520BD2SATAD2	Eight DIMM sockets DDR2-400 240-pin ECC Registered DIMMs Supported DIMM sizes: 256 MB, 512 MB, 1 GB, 2 GB 16 GB Maximum Dual channel architecture Memory Mirroring Memory Sparing	One PCI Express* x8 One PCI Express x4 One PCI-X* 133MHz Two PCI-X 100MHz One PCI 32-bit / 33MHz 5V	N/A	Dual serial ATA channels with support for RAID 0 and 1. One IDE connector supporting two ATA/100 IDE channels.	Four: - Two at rear of board - Two at front of board

Continued

Table 1. Server Board Varieties (continued)

Product Code	Memory	PCI	SCSI	SATA	USB Connections
Product code SE7520BD2SCSI	Six DIMM sockets DDR 266/333 72-bit, 184-pin DIMMs Supported DIMM sizes: 256MB, 512MB, 1GB, 2GB, 4GB 24 GB Maximum (when 4GB DIMMs are available) Dual channel architecture Memory Mirroring Memory Sparing	One PCI Express* x8 One PCI Express x4 One PCI-X* 133MHz Two PCI-X 100MHz One PCI 32-bit / 33MHz 5V	Two Ultra-320/LVD channels via the LSI* 53C1030 SCSI controller	Dual serial ATA channels with support for RAID 0 and 1. One IDE connector supporting two ATA/100 IDE channels.	Five: - Three at rear of board - Two at front of board
Product code SE7520BD2SCSID2	Eight DIMM sockets DDR2-400 240-pin ECC Registered DIMMs Supported DIMM sizes: 256 MB, 512 MB, 1 GB, 2 GB 16 GB Maximum Dual channel architecture Memory Mirroring Memory Sparing	One PCI Express* x8 One PCI Express x4 One PCI-X* 133MHz Two PCI-X 100MHz One PCI 32-bit / 33MHz 5V	Two Ultra-320/LVD channels via the LSI 53C1030 SCSI controller	Dual serial ATA channels with support for RAID 0 and 1. One IDE connector supporting two ATA/100 IDE channels.	Four: - Two at rear of board - Two at front of board

Continued

Table 1. Server Board Varieties (continued)

Product Code	Memory	PCI	SCSI	SATA	USB Connections
Product code SE7520BD2V	Six DIMM sockets DDR 266/333 72-bit, 184-pin DIMMs Supported DIMM sizes: 256MB, 512MB, 1GB, 2GB, 4GB 24 GB Maximum (when 4 GB DIMMs are available) Dual channel architecture Memory Mirroring Memory Sparing	One PCI Express x4 One PCI-X 133MHz Two PCI-X 100MHz One PCI 32-bit / 33MHz 5V	One Ultra-320/LVD channel via either the LSI* 53C1020 or LSI* 53C1020A SCSI controller	Dual serial ATA channels with support for RAID 0 and 1. One IDE connector supporting two ATA/100 IDE channels.	Four: - Two at rear of board - Two at front of board
Product code SE7520BD2VD2	Eight DIMM sockets DDR2-400 240-pin ECC Registered DIMMs Supported DIMM sizes: 256 MB, 512 MB, 1 GB, 2 GB 16 GB Maximum Dual channel architecture Memory Mirroring Memory Sparing	One PCI Express x4 One PCI-X 133MHz Two PCI-X 100MHz One PCI 32-bit / 33MHz 5V	One Ultra-320/LVD channel via either the LSI 53C1020 or LSI 53C1020A SCSI controller	Dual serial ATA channels with support for RAID 0 and 1. One IDE connector supporting two ATA/100 IDE channels.	Four: - Two at rear of board - Two at front of board

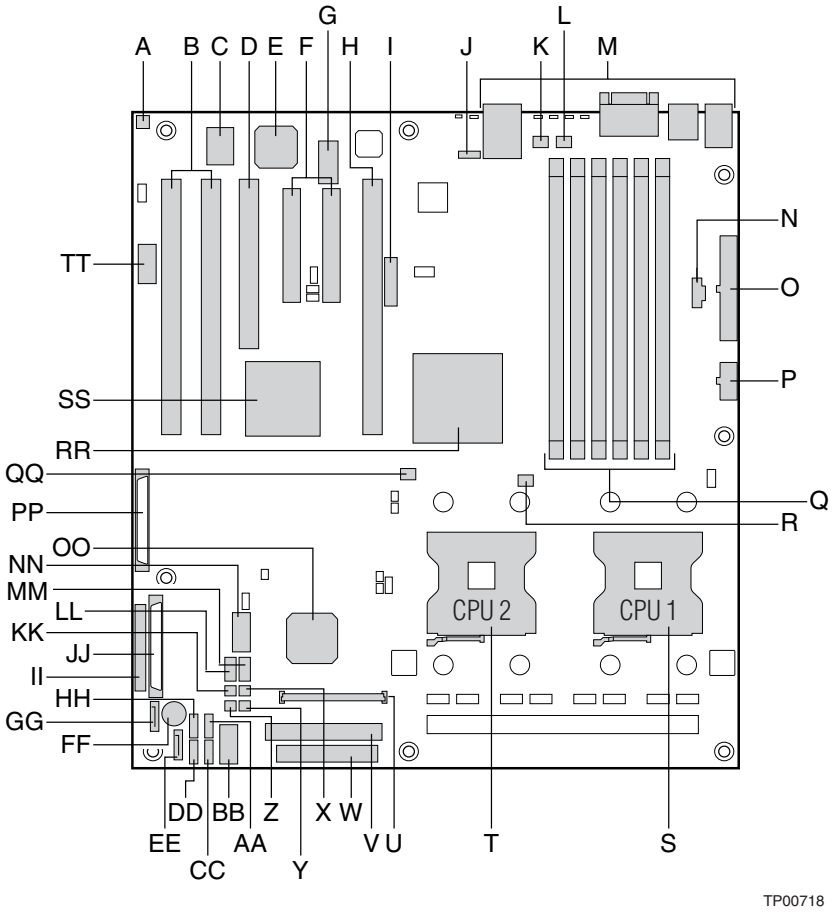
Table 2 summarizes the major features of the server board. See Table 1 for additional information.

Table 2. Server Board Features

Feature	Description
Processors	Up to two Intel® Xeon™ processors with an FC-mPGA4 using Socket 604, and an 800-MHz Front Side Bus (FSB)
Memory	See Table 1
Chipset	Intel® E7520 chipset: ▪ Supports 800 MHz Front Side Bus (FSB) ▪ Intel® E7520 Memory Controller Hub (MCH) ▪ Intel® 6700PXH 64-bit PCI Hub ▪ Intel® 82801ER I/O Controller Hub5 (ICH-5R)
I/O Control	Super I/O controller chip that provides: ▪ Two stacked and interchangeable PS/2 compatible keyboard/mouse ports ▪ USB ports: See Table 1 ▪ One external serial port on the rear I/O port area (Serial A) ▪ One serial port header to provide a second, optional serial port (Serial B) ▪ One IDE connector supporting up to two ATA-100 compatible devices ▪ One standard floppy drive interface
Video	▪ Integrated on-board ATI Rage* XL SVGA video controller. ▪ 8 MB SDRAM video memory ▪ SVGA video port
Hard Disk Drive	▪ Two serial ATA 150 ports ▪ Support for entry-level RAID functionality (LSI* Logic integrated mirroring and integrated striping) ▪ See Table 1
LAN	▪ Dual integrated 10/100/1000 MB on-board Ethernet connectors One Marvell* 88E8050 10/100/1000 LAN One Intel® 82541PI 10/100/1000 LAN
Expansion Slots	Six full-length, full-height PCI expansion slots. ▪ Slot 1 and Slot 2: PCI-X* 64-bit/100 MHz ▪ Slot 3: PCI 32-bit/33MHz ▪ Slot 4: PCI Express* x8 with x4 speeds ▪ Slot 5: PCI Express x8 (not on product codes SE7520BD2V and SE7520BD2VD2) ▪ Slot 6: PCI-X* 64-bit/133-MHz
Fans	▪ Six multi-speed system fan headers. ▪ Two single-speed CPU fan headers.
Server Management	▪ National Semiconductor* PC87431M controller to provide monitoring, alerting and logging of critical sensor information. ▪ Intel® Light-Guided Diagnostics on critical FRU devices, such as processors, memory, and power (not on product codes SE7520BD2V and SE7520BD2VD2) ▪ Custom front panel LCD connectors for use with the Intel® Local Control Panel ▪ Intel® Management Module Professional or Advanced
Form Factor	▪ SSI-EEB3.5 compliant form factor ▪ Board size 12 inches by 13 inches

Connector and Header Locations

Product Codes SE7520BD2, SE7520BD2SCSI, SE7520BD2V

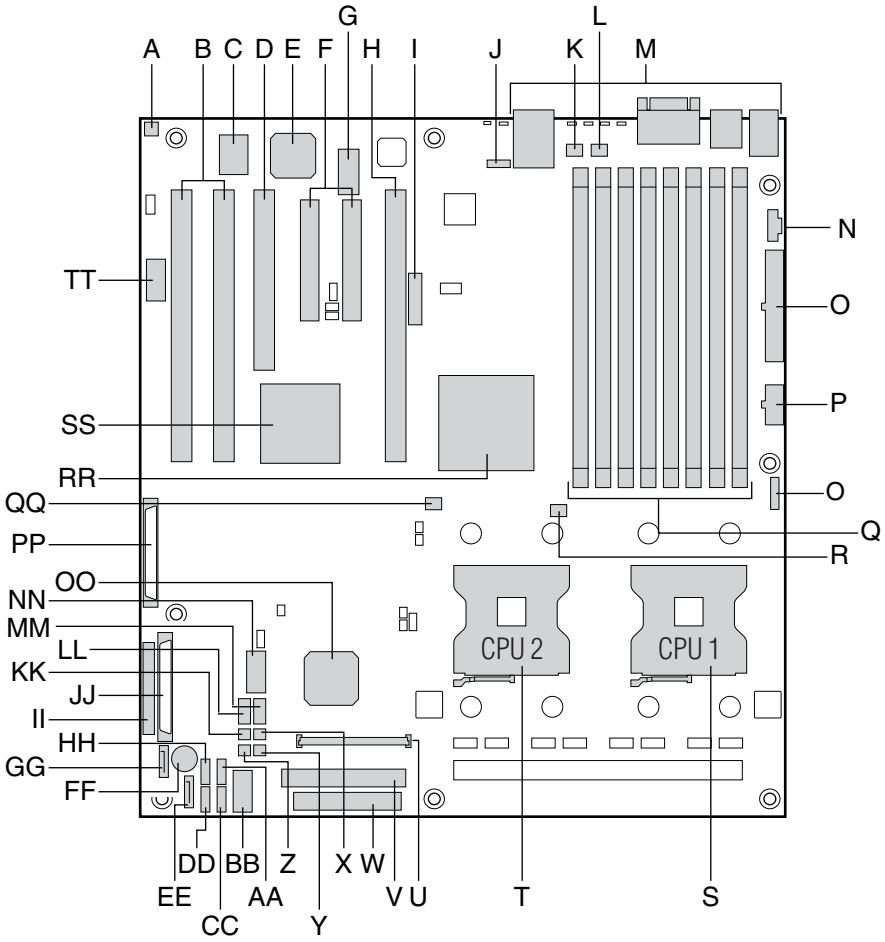


A Chassis Intrusion	P CPU Power Connector	GG SATA A1
B, Left PCI-X* 100 Slot	Q DIMM Sockets	HH HSBP B
B, Right PCI-X 100 Slot (MROMB)	R CPU 1 Fan Header	II Front Panel Connector
C Super I/O	S CPU 1	JJ SCSI Channel A
D PCI Slot 32/33	T CPU 2	KK System Fan 1 (3-pin)
E ATI* Rage XL Graphics Controller	U Intel® Management Module Connector	LL System Fan 3 (6-pin)
F, Left x8 (x4speed) PCI-Express* Slot	V IDE Connector	MM System Fan 4 (6-pin)
F, Right x8 PCI-Express Slot	W Floppy Connector	NN OEM RMC
G Intel® 82541P1 (10/100/1000)	X System Fan 2 (3-pin)	OO ICH5R
H PCI-X 133 Slot	Y System Fan 2 (2-pin)	PP SCSI Channel B
I Battery	Z System Fan 1 (2-pin)	QQ LSI* 53C1030 SCSI Controller
J ICMB Connector	AA HSBP A	RR CPU 2 Fan Header
K System Fan 5	BB Front Panel USB	SS MCH
L System Fan 6	CC Front Panel LCP	TT PHX
M System I/O Connectors	DD IPMB	UU Serial B Header
N Auxiliary Power Connector	EE SATA A2	
O Main Power Connector	FF Speaker	

Note: F, Right (x8 PCI Express), NN (OEM RMC), and PP (SCSI Channel B) are not available on product codes SE7520BD2V.
QQ (LSI* 53C1030 SCSI Controller) is not available on product code SE7520BD2.

Figure 2. Product Codes SE7520BD2, SE7520BD2SCSI, and SE7520BD2V Connector and Header Locations

Product Codes SE7520BD2SCSID2, SE7520BD2VD2, SE7520BD2SATAD2



A Chassis Intrusion	P CPU Power Connector	GG SATA A1
B, Left PCI-X* 100 Slot	Q DIMM Sockets	HH HSBP B
B, Right PCI-X 100 Slot (MROMB)	R CPU 1 Fan Header	II Front Panel Connector
C Super I/O	S CPU 1	JJ SCSI Channel A
D PCI Slot 32/33	T CPU 2	KK System Fan 1 (3-pin)
E ATI* Rage XL Graphics Controller	U Intel® Management Module Connector	LL System Fan 3 (6-pin)
F, Left x8 (x4speed) PCI-Express* Slot	V IDE Connector	MM System Fan 4 (6-pin)
F, Right x8 PCI-Express Slot	W Floppy Connector	NN OEM RMC
G Intel® 82541P1 (10/100/1000)	X System Fan 2 (3-pin)	OO ICH5R
H PCI-X 133 Slot	Y System Fan 2 (2-pin)	PP SCSI Channel B
I Battery	Z System Fan 1 (2-pin)	QQ LSI* 53C1030 SCSI Controller
J ICMB Connector	AA HSBP A	RR CPU 2 Fan Header
K System Fan 5	BB Front Panel USB	SS MCH
L System Fan 6	CC Front Panel LCP	TT PHX
M System I/O Connectors	DD IPMB	UU Serial B Header
N Auxiliary Power Connector	EE SATA A2	
O Main Power Connector	FF Speaker	

Note: F, Right (x8 PCI Express), NN (OEM RMC), and PP (SCSI Channel B) are not available on product codes SE7520BD2VD2. QQ (LSI* 53C1030 SCSI Controller) is not available on product code SE7520BD2SATAD2.

Figure 3. Product Codes SE7520BD2SCSID2, SE7520BD2VD2, and SE7520BD2SATAD2 Connector and Header Locations

Configuration Jumpers

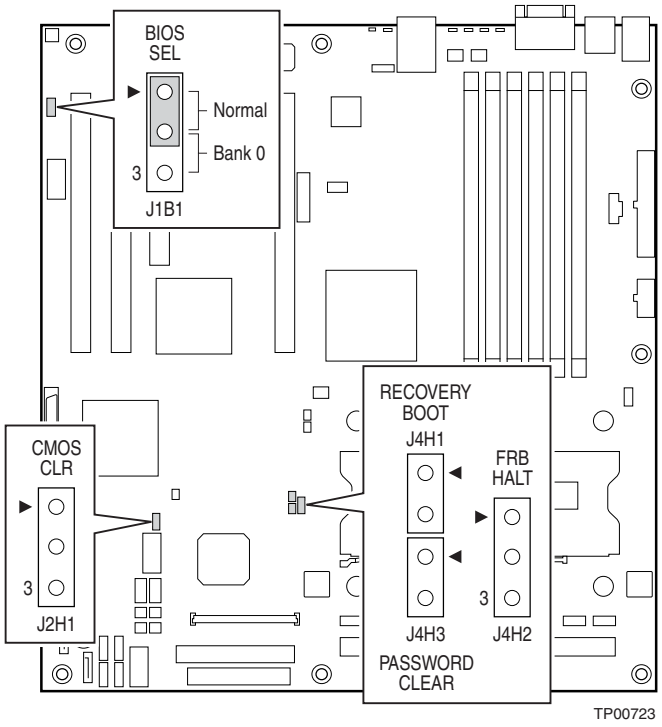
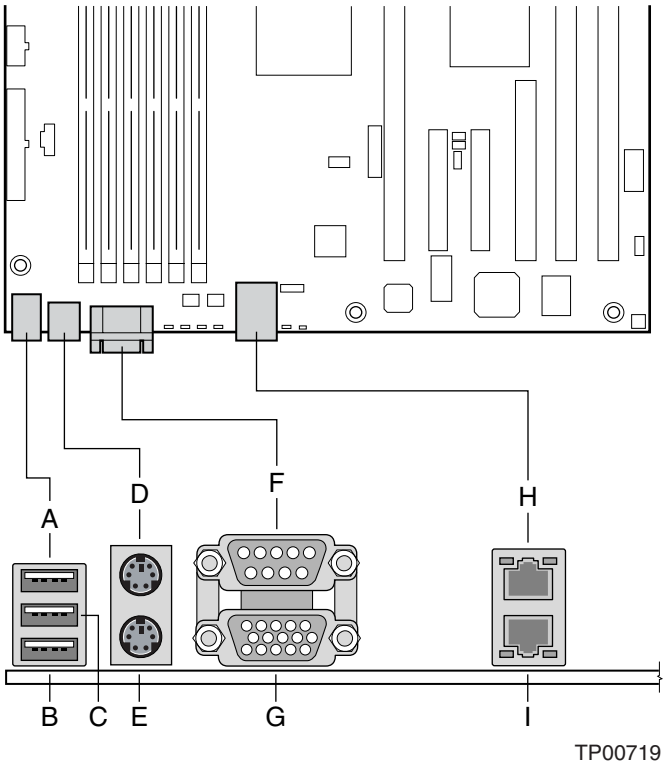


Figure 4. Configuration Jumper Location

Table 3. Configuration Jumpers

Jumper Name	Pins	What happens at system reset…
CMOS Clear (J2H1)	1-2	BMC Control: These pins should be jumpered for normal operation.
	2-3	Force Erase: If these pins are jumpered, the CMOS settings will be cleared on the next reset. These pins should **not** be jumpered for normal operation.
Password Clear (J4H3)	OFF	Protect: These pins should **not** be jumpered for normal operation.
	ON	Erase: If these pins are jumpered, administrator and user passwords will be cleared on the next reset. These pins should **not** be jumpered for normal operation.
BIOS Recovery (J4H1)	OFF	Normal Boot: These pins should **not** be jumpered for normal operation
	ON	Recovery Boot: If these pins are jumpered, the system will attempt to recover the BIOS by loading the BIOS code into the flash device from a floppy disk. This jumper is typically used when the BIOS has become corrupted. These pins should **not** be jumpered for normal operation.

Back Panel Connectors



A	USB3 (see note)*	D	Mouse	G	Video
B	USB2	E	Keyboard	H	NIC1 (Management port)
C	USB1	F	Serial A	I	NIC2

Note: USB3 is available only on product codes SE7520BD2 and SE7520BD2SCSI

Figure 5. Back Panel Connectors

The NIC LEDs at the right and left of the NICs provide the following information. See the *Intel® Server Board SE7520BD2 Technical Product Specification* for POST code errors.

Table 4. NIC LEDs

LED	LED State	Description
Left LED	Off	No network connection is in place
	Solid Green	Network connection is in place
	Blinking Green	Transmit/receive activity
Right LED	Off	10 Mbps connection (if left LED is on or blinking)
	Solid Green	100 Mbps connection
	Solid Amber	1000 Mbps connection

Hardware Requirements

To avoid integration difficulties and possible board damage, your system must meet the requirements outlined below. For a list of qualified components, see the links under "Additional Information and Software".

Server Chassis

The following table shows the product codes for the Server Board SE7520BD2 and the product codes for the Intel Server Chassis into which the various versions of the board can be installed. If you are using a non-Intel chassis, see your chassis documentation for support information.

Table 5. Intel® Server Chassis Supported for each Server Board SE7520BD2 Product Code

	SC5275E	SC5300	SC5300BRP	SC5300LX	SC5295DP	SC5295BRP
SE7520BD2	Supported	Supported	Supported	Supported	Not supported	Not supported
SE7520BD2SCSI	Supported	Supported	Supported	Supported	Not supported	Not supported
SE7520BD2V	Supported	Supported	Supported	Supported	Not supported	Not supported
SE7520BD2SATAD2	Supported	Supported	Supported	Supported	Supported	Supported
SE7520BD2SCSID2	Supported	Supported	Supported	Supported	Supported	Supported
SE7520BD2VD2	Supported	Supported	Supported	Supported	Supported	Supported

Processor

The Intel® Server Board SE7520BD2 (all product codes) supports up to two Intel® Xeon™ processors with an FC-mPGA4 using Socket 604, and an 800-MHz Front Side Bus (FSB) with frequencies starting at 2.8 GHz using the 90-nanometer technology. Previous generations of the Intel® Xeon™ processors are not supported.

When two processors are installed, both must be of identical revision, core voltage, cache size, and bus/core speed. When a single processor is installed, it must be in the socket labeled CPU1.

For a link to the complete list of supported processors, see:
http://support.intel.com/support/motherboards/server/se7520bd2/sb/CS-013540.htm

Memory

For a list of supported memory DIMMs, see:
http://support.intel.com/support/motherboards/server/se7520bd2/sb/CS-013543.htm.

Product Codes SE7520BD2, SE7520BD2SCSI, and SE7520BD2V

Product codes SE7520BD2, SE7520BD2SCSI, and SE7520BD2V include three banks of DIMMs across two channels. Channel A consists of DIMMs 1A, 2A, and 3A. Channel B consists of DIMMs 1B, 2B, and 3B. Bank 1 (DIMMs 1B and 1A) is closest to the edge of the server board. DIMMs must be identical within each bank.

The minimum allowed memory is 256 MB, using a single 256 MB DIMM in DIMM slot 1B. The system operates in single channel when only a single DIMM is installed. The maximum allowed usable memory is 24 GB of DDR 266 and 16 MB of DDR333, using 4 GB DIMMs.

DIMMs must meet the following requirements:

- Use only 184-pin, DDR-266/333 ECC, registered DDR DIMM modules
- Have a DIMM organization x72 ECC
- Support the following sizes: 256 MB, 512 MB, 1 GB, 2 GB, 4GB[i]
- DDR-333 memory is only supported with BGA package memory on the Intel® Server Board SE7520BD2 (product codes SE7520BD2, SE7520BD2SCSO, SE7520BD2V). TSOP SDRAM packages will not be supported on DDR-333 DIMMs on these product codes.
- A minimum of one 256MB DIMM is required in DIMM socket 1B. This uses single-channel interleave. However, for dual-channel interleave, providing optimum performance, a minimum of two DIMMs should be installed in DIMM sockets 1A and 1B. Except for the option of installing a single DIMM in socket 1B, DIMMs must be installed in pairs and populated as follows:

  DIMM1A and DIMM 1B: Populate these two sockets together first

  DIMM 2A and DIMM 2B: Populate these sockets in addition to DIMM 1A and DIMM 2A if four DIMMs are to be used.

  DIMM 3A and DIMM 3B: Populate these sockets after DIMM 1A, DIMM 1B, DIMM 2A, and DIMM 2B have been populated.

Intel® Server Boards SE7520BD2SCSID2, SE7520BD2SATAD2, and SE7520BD2VD2

Product codes SE7520BD2SCSID2, SE7520BD2SATAD2, and SE7520BD2VD2 include four banks of DIMMs across two channels. Channel A consists of DIMMs 1A, 2A, 3A, and 4A. Channel B consists of DIMMs 1B, 2B, 3B, and 4B. Bank 1 (DIMMs 1B and 1A) is closest to the edge of the server board. DIMMs must be identical within each bank.

The minimum allowed memory is 256 MB, using a single 256 MB DIMM in DIMM slot 1B. The system operates in single channel when only a single DIMM is installed. The maximum allowed usable memory is 16 GB of DDR2-400, using 2 GB DIMMs.

DIMMs must meet the following requirements:

- Use only 240-pin, DDR2-400 ECC, registered DIMM modules
- Have a DIMM organization x72 ECC
- Support the following sizes: 256 MB, 512 MB, 1 GB, 2 GB
- A minimum of one 256MB DIMM is required in DIMM socket 1B. This uses single-channel interleave. However, for dual-channel interleave, providing optimum performance, a minimum of two DIMMs should be installed in DIMM sockets 1A and 1B. Except for the option of installing a single DIMM in socket 1B, DIMMs must be installed in pairs and populated as follows:

  DIMM1A and DIMM 1B: Populate these two sockets together first

  DIMM 2A and DIMM 2B: Populate these sockets in addition to DIMM 1A and DIMM 2A if four DIMMs are to be used.

  DIMM 3A and DIMM 3B: Populate these sockets after DIMM 1A, DIMM 1B, DIMM 2A, and DIMM 2B have been populated.

  DIMM 4A and DIMM 4B: Populate these sockets after DIMM 1A, DIMM 1B, DIMM 2A, DIMM 2B, DIMM 3A, and DIMM 3B have been populated.

Memory Mirroring and Memory On-line Sparing

The Intel® E7520 chipset includes hardware that supports memory mirroring and memory on-line sparing. Both memory mirroring and memory on-line sparing provide a way to prevent data loss in case a DIMM fails.

With memory mirroring the system maintains two copies of all data in the memory subsystem. If a DIMM fails, the data is not lost because the second copy of the data is available from the mirrored DIMM. The system will not fail due to memory error unless both the primary and the mirrored copy of the data become corrupt at the same time.

In a mirrored system, the maximum usable memory is one-half of the installed memory, with a minimum of four DIMMs installed. Since the data is duplicated across DIMMs, it means that up to four DIMMs are actively in use at any one time. If six 2 GB DIMMs are installed, the maximum usable memory is 6 GB (three of the installed DIMMs). The remaining three 2 GB DIMMs are used for mirroring.

For memory on-line sparing, one DIMM per channel is used as the memory spare. If a DIMM begins to fail, the content of the failing DIMM is copied to the spare DIMM in that channel. When all of the data is copied to the spare DIMM, the primary DIMM is removed from service and the spare DIMM takes its place. When memory on-line sparing is used, the spare DIMMs must be equal to or larger than the largest in-service DIMM in that channel.

For additional information, see the *Intel® Server Board SE7520BD2 Technical Product Specification*.

Power Supply

The minimum power supply required depends on the server chassis into which the server board is installed. Your supply must provide a minimum of 1.2 A of 5 V standby current or the board will not boot.

- For the Intel Entry Server Chassis SC5295-E DP, a minimum 450W power supply is required.
- For the Intel Entry Server Chassis SC5295-E BRP, a minimum 500W power supply is required.
- For the Intel Entry Server Chassis SC5300, a minimum 600W power supply is required.
- For the Intel Entry Server Chassis SC5275-E, a minimum 600W power supply is required.

Use the power budget tool to determine the minimum power supply for your system, based on all installed components. For a link to the power budget utility, see “Additional Information and Software”.

2 Hardware Installations and Upgrades

Before You Begin

Before working with your server product, pay close attention to the "Safety Information" at the beginning of this manual.

NOTES

Most diagrams in this manual show product code SE7520BD2. Where necessary to complete a procedure, differences are noted.

Tools and Supplies Needed

- Phillips* (cross head) screwdriver (#1 bit and #2 bit)
- Needle-nosed pliers
- A ruler
- Pen or pencil
- Anti-static wrist strap and conductive foam pad (recommended)

Installing and Removing Memory

The silkscreen on the board for the DIMMs displays DIMM1B, DIMM1A, DIMM2B, DIMM2A, DIMM3B, DIMM3A starting from the edge of the board. See "Memory" for a discussion of the memory requirements and options. See "Additional Information and Software" for a link to the list of tested DIMMs for this server board.

Installing DIMMs

To install DIMMs, follow these steps:

1. Observe the safety and ESD precautions at the beginning of this book.
2. Turn off all peripheral devices connected to the server. Turn off the server.
3. Disconnect the AC power cord from the server.
4. Remove the chassis cover. See your chassis documentation for instructions.
5. Locate the DIMM sockets. See Figure 6.

NOTES

The diagram below shows product code SE7520BD2. If you are using a Server Board SE7520BD2 that supports DDR2 memory DIMMs, your server board will have eight DIMM sockets instead of the six pictured below. From left to right, the eight DIMM sockets are numbered DIMM 4A, DIMM 4B, DIMM 3A, DIMM3B, DIMM2A, DIMM2B, DIMM1A, DIMM1B. Begin populating your memory with DIMM 1B.

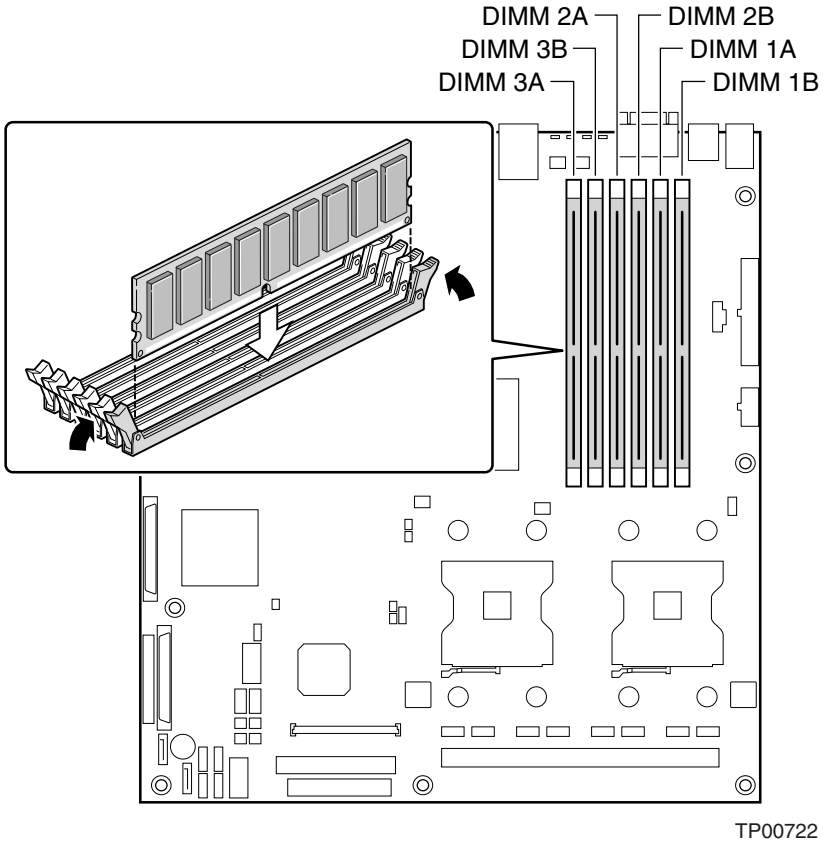


Figure 6. Installing Memory

6. Make sure the clips at either end of the DIMM socket(s) are pushed outward to the open position.
7. Holding the DIMM by the edges, remove it from its anti-static package.
8. Position the DIMM above the socket. Align the small notch in the bottom edge of the DIMM with the key in the socket.
9. Insert the bottom edge of the DIMM into the socket.
10. When the DIMM is inserted, carefully push straight down on the top edge of the DIMM until the retaining clips snap into place. Make sure the clips are firmly in place.
11. Replace the chassis cover and reconnect the AC power cord.

Removing DIMMs

To remove a DIMM, follow these steps:

1. Observe the safety and ESD precautions at the beginning of this book.
2. Turn off all peripheral devices connected to the server. Turn off the server.
3. Remove the AC power cord from the server.
4. Remove the chassis cover.
5. Gently spread the retaining clips at each end of the socket. The DIMM lifts from the socket.
6. Holding the DIMM by the edges, lift it from the socket, and store it in an anti-static package.
7. Reinstall and reconnect any parts you removed or disconnected to reach the DIMM sockets.
8. Replace the chassis cover and reconnect the AC power cord.

Installing or Replacing the Processor

⚠ CAUTIONS

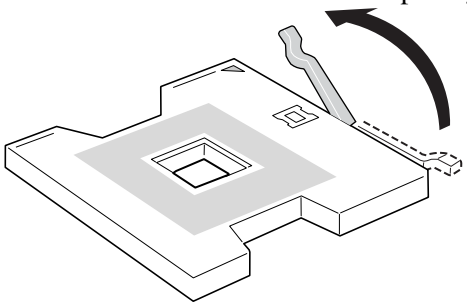
Processor must be appropriate: You may damage the server board if you install a processor that is inappropriate for your server. See Supported Processor List for compatible processor(s).

ESD and handling processors: Reduce the risk of electrostatic discharge (ESD) damage to the processor by doing the following: (1) Touch the metal chassis before touching the processor or server board. Keep part of your body in contact with the metal chassis to dissipate the static charge while handling the processor. (2) Avoid moving around unnecessarily.

Installing the Processor

To install a processor, follow these instructions:

1. Observe the safety and ESD precautions at the beginning of this book.
2. Turn off all peripheral devices connected to the server. Turn off the server.
3. Disconnect the AC power cord from the server.
4. Remove the chassis cover and locate the processor sockets.
5. Locate the processor socket and raise the socket handle completely.



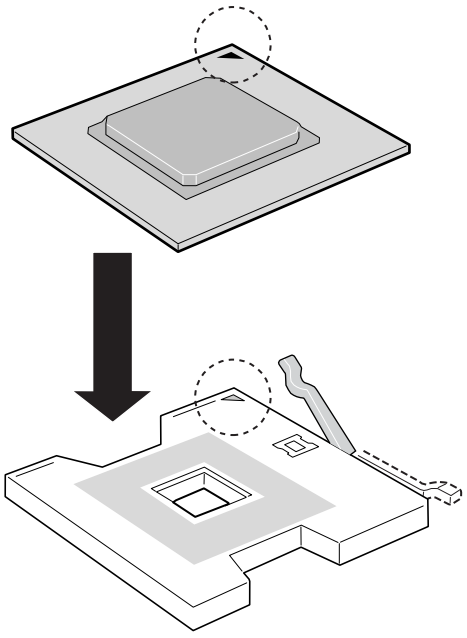
TP00725

Figure 7. Opening Socket Lever

6. Align the pins of the processor with the socket, and insert the processor into the socket.

NOTE

Make sure the alignment triangle mark and the alignment triangle cutout align correctly.



TP00864

Figure 8. Inserting Processor

7. Lower the socket lever completely.

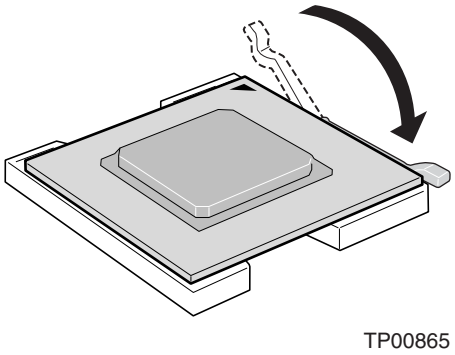


Figure 9. Closing Socket Lever

Installing the Heat Sink(s)

1. The heat sink has Thermal Interface Material (TIM) located on the bottom of it. Use caution when you unpack the heat sink so you do not damage the TIM.
2. Set the heat sink over the processor, lining up the four captive screws with the four posts surrounding the processor.
3. Loosely screw in the captive screws on the heat sink corners in a diagonal manner. Do not fully tighten one screw before tightening another.
4. Gradually and equally tighten each captive screw until all screws are tight.

NOTE

Boxed processor thermal solutions differ depending on the chassis. See the boxed processor documentation for specifc instructions for the thermal solution.

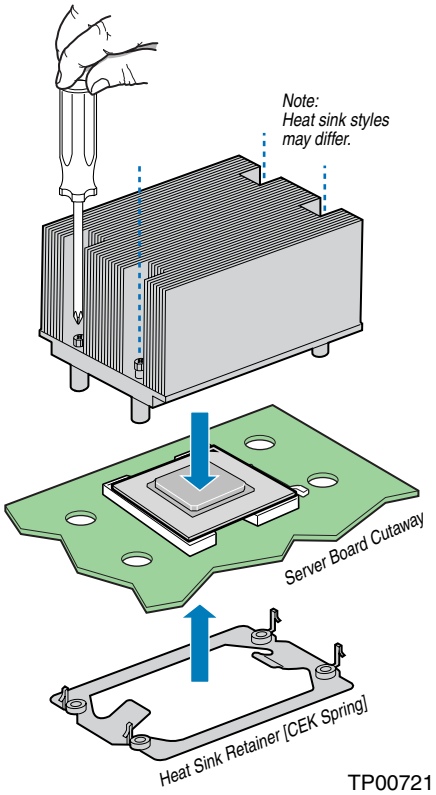


Figure 10. Installing the Heat Sink

Removing a Processor

1. Observe the safety and ESD precautions at the beginning of this book.
2. Turn off all peripheral devices connected to the server. Turn off the server.
3. Remove the AC power cord from the server.
4. Remove the chassis cover.
5. Unplug the processor fan cable from the server board.
6. Loosen the four captive screws on the corners of the heat sink.
7. Twist the heat sink slightly to break the seal between the heat sink and the processor.
8. Lift the heat sink from the processor. If it does not pull up easily, twist the heat sink again. Do not force the heat sink from the processor. Doing so could damage the processor.
9. Lift the processor lever.
10. Remove the processor.
11. If installing a replacement processor, see “Installing the Processor”. Otherwise, reinstall the chassis cover.

Installing or Removing a PCI Card

Peripherals and add-in cards are not included with your system and must be purchased separately. If a low profile card is installed in the standard full-height riser card slot, it must be equipped with a standard full-height PCI mounting bracket.

WARNING

Do not attempt to remove a PCI card without turning off the system first.

1. Remove the chassis cover.
2. See the chassis *Quick Start User’s Guide* for instructions on removing any chassis cooling ducts prior to installing or removing a PCI add-in card.
3. Install (or remove) the PCI add-in card.
4. See the chassis *Quick Start User’s Guide* for instructions on re-installing any chassis cooling ducts.
5. Re-install the chassis cover.

Replacing the Backup Battery

The lithium battery on the server board powers the RTC for up to 10 years in the absence of power. When the battery starts to weaken, it loses voltage, and the server settings stored in CMOS RAM in the RTC (for example, the date and time) may be wrong. Contact your customer service representative or dealer for a list of approved devices.

⚠ WARNING

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

⚠ ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

⚠ ADVARSEL

Lithiumbatteri - Eksplosjonsfare. Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten. Brukt batteri returneres apparatleverandøren.

⚠ VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

⚠ VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

1. Observe the safety and ESD precautions at the beginning of this book.
2. Turn off all peripheral devices connected to the server. Turn off the server.
3. Disconnect the AC power cord from the server.
4. Remove the chassis cover and locate the battery.
5. Push the metal lever over the top of the battery to the side to disengage it from the battery.
6. While holding the lever away from the battery, lift the battery from its socket.

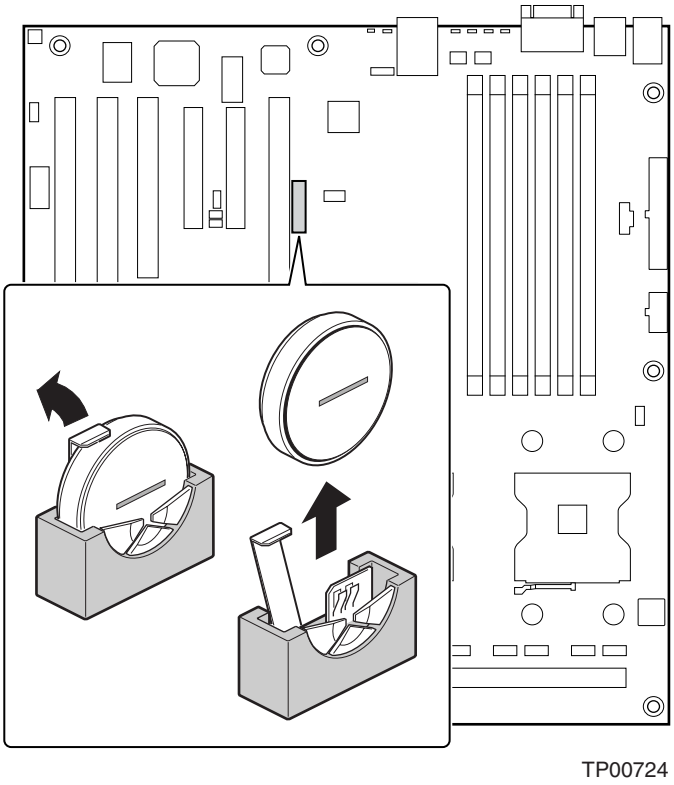


Figure 11. Replacing the Backup Battery

7 Dispose of the old battery according to local ordinance.
8 Remove the new lithium battery from its package, and observe the correct polarity. The flat side of the battery that has a “+” on it must face toward the DIMM slots.
9 Insert the battery in the socket.
10 Close the chassis.
11 Run Setup to restore the configuration settings to the RTC.

3 Server Utilities

Using the BIOS Setup Utility

This section describes the BIOS Setup Utility options, which is used to change server configuration defaults. You can run BIOS Setup with or without an operating system present. See the *Intel® Server Board SE7520BD2 Technical Product Specification* for additional details about specific BIOS setup screens.

Starting Setup

You can enter and start BIOS Setup under several conditions:

- When you turn on the server, after POST completes the memory test
- When you have moved the CMOS jumper on the server board to the "Clear CMOS" position (enabled)

In the two conditions listed above, after rebooting, you will see this prompt:

```
Press <F2> to enter SETUP
```

In a third condition, when CMOS/NVRAM has been corrupted, you will see other prompts but not the <F2> prompt:

```
Warning:  CMOS checksum invalid
Warning:  CMOS time and date not set
```

In this condition, the BIOS will load default values for CMOS and attempt to boot.

If You Cannot Access Setup

If you are not able to access BIOS Setup, you might need to clear the CMOS memory. For instructions on clearing the CMOS, see "Clearing the CMOS".

Setup Menus

Each BIOS Setup menu page contains a number of features. Except for those features that are provided only to display automatically configured information, each feature is associated with a value field that contains user-selectable parameters. These parameters can be changed if the user has adequate security rights. If a value cannot be changed for any reason, the feature's value field is inaccessible.

Table 6 describes the keyboard commands you can use in the BIOS Setup menus.

Table 6. Keyboard Commands

Press	Description
<F1>	Help - Pressing F1 on any menu invokes the general Help window.
	The left and right arrow keys are used to move between the major menu pages. The keys have no affect if a submenu or pick list is displayed.
	Select Item up - The up arrow is used to select the previous value in a menu item's option list, or a value field pick list. Pressing the Enter key activates the selected item.
	Select Item down - The down arrow is used to select the next value in a menu item's option list, or a value field pick list. Pressing the Enter key activates the selected item.
F5/-	Change Value - The minus key or the F5 function key is used to change the value of the current item to the previous value. This key scrolls through the values in the associated pick list without displaying the full list.
F6/+	Change Value - The plus key or the F6 function key is used to change the value of the current menu item to the next value. This key scrolls through the values in the associated pick list without displaying the full list. On 106-key Japanese keyboards, the plus key has a different scan code than the plus key on the other keyboard, but it has the same effect.
<Enter>	Execute Command - The Enter key is used to activate submenus when the selected feature is a submenu, or to display a pick list if a selected feature has a value field, or to select a sub-field for multi-valued features like time and date. If a pick list is displayed, the Enter key will undo the pick list, and allow another selection in the parent menu.
<Esc>	Exit - The ESC key provides a mechanism for backing out of any field. This key will undo the pressing of the Enter key. When the ESC key is pressed while editing any field or selecting features of a menu, the parent menu is re-entered. When the ESC key is pressed in any submenu, the parent menu is re-entered. When the ESC key is pressed in any major menu, the exit confirmation window is displayed and the user is asked whether changes can be discarded.
<F9>	Setup Defaults - Pressing F9 causes the following to appear: Setup Confirmation Load default configuration now? [Yes] [No] If "Yes" is selected and the Enter key is pressed, all Setup fields are set to their default values. If "No" is selected and the Enter key is pressed, or if the ESC key is pressed, the user is returned to where they were before F9 was pressed without affecting any existing field values.
<F10>	Save and Exit - Pressing F10 causes the following message to appear: Setup Confirmation Save Configuration changes and exit now? [Yes] [NO] If "Yes" is selected and the Enter key is pressed, all changes are saved and Setup is exited. If "No" is selected and the Enter key is pressed, or the ESC key is pressed, the user is returned to where they were before F10 was pressed without affecting any existing values.

Upgrading the BIOS

NOTE

These instructions describe the process of updating the BIOS only. It is recommented that you check the Intel website Download Finder for the System Update Package (SUP). The SUP contains the BIOS, FRU/SDR and HSC firmware all in one easy to install package.

The BIOS upgrade utility allows you to upgrade the BIOS in flash memory. The code and data in the upgrade file include the following:

- On-board BIOS, ATA-100 RAID BIOS, and PXE option ROMs for the devices that are embedded on the system board
- The Setup Utility
- The System BIOS

Preparing for the Upgrade

The steps below explain how to prepare to upgrade the BIOS, including how to:

- Record the current BIOS settings
- Obtain the upgrade utility
- Prepare a bootable diskette for the utilty

Recording the Current BIOS Settings

1. Boot the computer and press <F2> when you see the message:

   ```
   Press <F2> Key if you want to run SETUP
   ```

2. Write down the current settings in the BIOS Setup program.

NOTE

Do not skip step 2. You will need these settings to configure your computer at the end of the procedure.

Obtaining the Upgrade

Download the latest BIOS image file to a temporary folder on your hard drive. See Download Finder for a link to the BIOS update software.

NOTE

Review the instructions distributed with the upgrade utility before attempting a BIOS upgrade. Review any release notes in the release notes file that accompanies the new version of the BIOS. The release notes may contain

critical information regarding jumper settings, specific fixes, or other information to complete the upgrade.

Preparing Media and Performing the BIOS Upgrade

Floppy Update

1. Extract floppy.zip to a temporary folder off the root of the drive.
2. Insert blank floppy diskette in drive A:

CAUTION

All data on the floppy diskette will be destroyed!

3. From the root directory run MAKEFLPY.bat to create the two required BIOS update floppies.
4. Boot the system with the first BIOS update floppy. When prompted, insert the second BIOS update floppy to continue the BIOS update.
5. When BIOS flash update is complete, it will display a message that all writing and verification of flash is done.
6. Power cycle the system.
7. Press <F2> to enter BIOS Setup, and re-enter the custom values recorded earlier. Press <F10> to save the values and exit Setup.
8. In the unlikely event that a BIOS error occurs during the BIOS update process, see "Recovering the BIOS" for instructions on performing a BIOS recovery.

Other Bootable Storage Update

1. Copy the afudos.exe, f.bat, fbb.bat, and the .ROM files to a bootable storage such as a USB DISK-ON-KEY.
2. Place the bootable storage such as USB DISK-ON-KEY containing the new BIOS into USB port of the system, and boot to pure DOS mode (non hi-mem or memory management environment).
3. Run fbb.bat (depending if the bootblock needs to be updated). fbb.bat updates both the system ROM and bootblock.

NOTE

If running fbb.bat / f.bat, jumper J1B1 (BIOS partition selection) should be set to pins 1-2 to select the correct BIOS partition.

4. When BIOS flash update is complete, it will display a message that all writing and verification of flash is done. Power-cycle the system.
5. As the system restarts, press <F2> to enter BIOS Setup, and re-enter the custom values you wrote down in step 3.
6. Press <F10> to save the values and exit Setup.

NOTE

The CMOS should always be cleared after a BIOS update. You may encounter a CMOS Checksum error or other problem after reboot. If so, try shutting down the system and restarting. CMOS checksum errors require that you enter Setup, check your settings, save your settings, and exit Setup.

Crisis Recovery Diskette

It is unlikely that anything will damage the BIOS. However, a recovery disk should be created to ensure a quick recovery in case it happens. The following steps explain how to create the crisis recovery diskette. If an incident occurs that corrupts the BIOS, such as the interruption of the BIOS update process, see "Recovering the BIOS" for instructions on performing a BIOS recovery.

You can obtain the *Recovery.zip* file which is packaged together with the BIOS Update Package from the Intel Support Web site at Download Finder.

There are two options in creating a recovery disk:

- Creating a Recovery Disk Using Floppy Disks
  1. Prepare two blank formatted floppy disks.
  2. Copy the AMIBOOT.000 to Disk 1.
  3. Copy the AMIBOOT.001 to Disk 2.
  4. Proceed to the instructions detailed below in "Recovering the BIOS".

- Creating a Recovery Disk Using a USB Disk On Key.
  1. Prepare a formatted storage (e.g. USB Key)
  2. Copy the file AMIBOOT.ROM to the storage prepared on Step 1.
  3. Proceed to the instructions detailed below in "Recovering the BIOS".

Changing the BIOS Language

You can use the BIOS upgrade utility to change the language the BIOS uses for messages and the Setup program.

1. Boot the server and enter BIOS <F2> setup
2. Under the Main Menu options select <Language> then enter
3. Select either English, French, German, Spanish or Italian

Recovering the BIOS

In the rare event that the BIOS becomes damaged, a recovery process needs to be followed to return the system to service. Two methods are available to recover the BIOS: automatically with the crisis recovery diskette, and manually by moving a jumper on the system board. These methods are described below.

NOTE

BIOS recovery is the mode of last resort, used only when the main system BIOS will not come up.

Recovering the BIOS with the Crisis Recovery Diskette

Automatically Recovering the BIOS

If a ROM checksum error occurs during POST, the system will automatically enter BIOS recovery mode. This is indicated by system beeping with one long beep followed by two short beeps. When you hear this beep pattern, use the following steps to initiate an automatic recovery:

1. Insert the Crisis Recovery Diskette into the A: diskette drive.
2. A blue screen will be displayed and the recovery process will automatically run. The system will continue to beep throughout the recovery process.
3. A series of three beeps and no disk access signals the need to insert disk two.
4. When the beeping stops and disk access stops on disk two the recovery process is complete.
5. Remove disk two.
6. Power down and unplug the system from the AC power source.
7. Plug the system into the AC power source and power it up to confirm that the recovery was successful.

Manually Recovering the BIOS

A BIOS recovery can be manually initiated. This option would be used only when the BIOS is corrupt, but the ROM checksum error does not occur during POST. To manually initiate a BIOS recovery, use the following steps:

1. Power down and uplug the system from the AC power source.
2. Install the recovery jumper at J4H1. See the figure below.

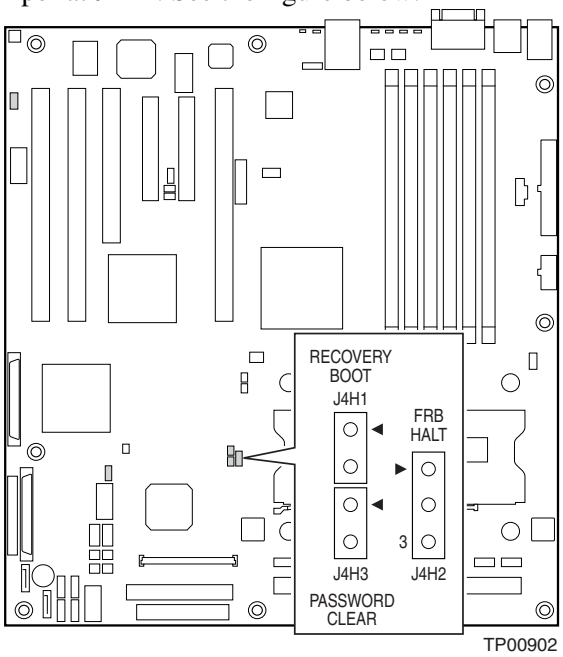


Figure 12. Recovery Boot Jumper

3. Insert the Crisis Recovery Diskette into the A: diskette drive.
4. .Plug the system into the AC power source and power it on.
5. A blue screen will be displayed and the recovery process will automatically run. The system will continue to beep throughout the recovery process.
6. A series of three beeps and no disk access signals the need to insert disk two.
7. When the beeping stops and disk access stops on disk two the recovery process is complete.
8. Remove disk two.
9. Power down and unplug the system from the AC power source.
10. Remove the BIOS recovery jumper at J4H1.
11. Plug the system into the AC power source and power it up to confirm that the recovery was successful.

Clearing the Password

If the user or administrator password(s) is lost or forgotten, install a jumper on jumper block J4H3 to remove both passwords. The Password Clear jumper must be removed before a new password(s) can be set.

1. Power down the system and disconnect the AC power.
2. Open the server chassis.
3. Install the jumper on jumper block J4H3, as shown in the following diagram.

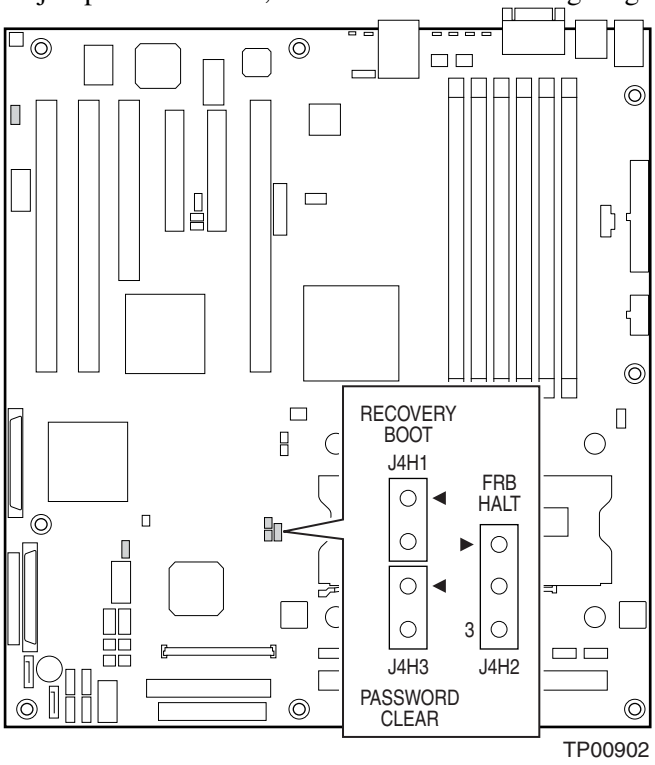


Figure 13. Password Clear Jumper

4. Reconnect the AC power, power up the system.
5. Power down the system and disconnect the AC power.
6. Remove the Password Clear jumper.
7. Close the server chassis.

Clearing the CMOS

If you are not able to access the BIOS setup screens, the Clear CMOS jumper will need to be used to reset the configuration RAM. The Clear CMOS jumper is located on jumper block J2H1.

1. Power down the system and disconnect the AC power.
2. Open the server.
3. Move the jumper from pins 1 and 2 to the Force Erase position, covering pins 2 and 3, as shown in the following diagram.

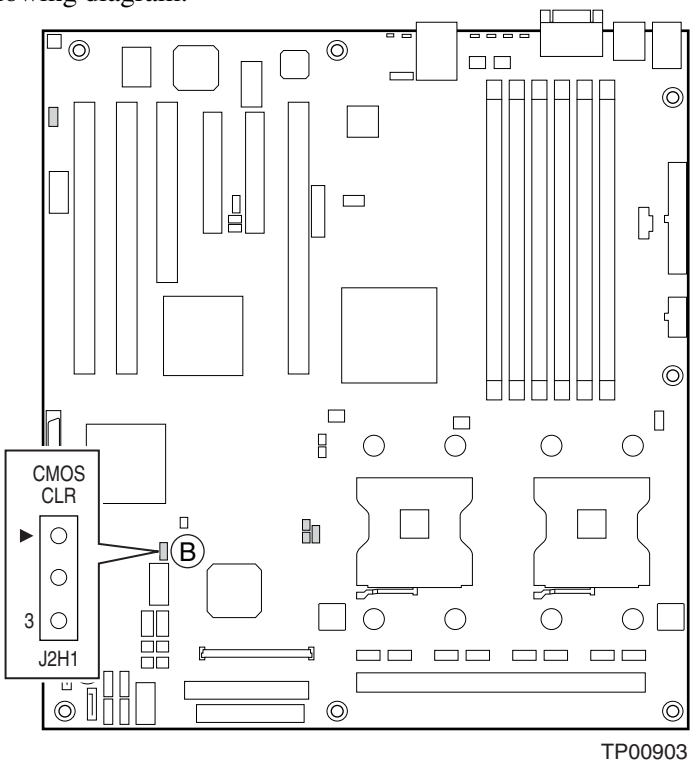


Figure 14. Clear CMOS Jumper

4. Reconnect the AC power, power up the system.
5. When the system begins beeping, power it down and disconnect the AC power.
6. Return the CMOS Clear jumper to cover pins 1 and 2.
7. Close the server chassis, reconnect the AC power and power up the system.

4 Troubleshooting

This chapter helps you identify and solve problems that might occur while you are using the system.

For any issue, first ensure you are using the latest firmware and files. Firmware upgrades include updates for BIOS, the baseboard management controller (BMC), and the hot-swap controller (HSC). See "Additional Information and Software" for a link to the software updates. In addition to the server firmware and files, also update any drivers used for components you have installed in your system, such as video drivers, network drivers, and SCSI drivers.

Intel provides a package called the "Platform Confidence Test" that may help with your diagnostics. See "Additional Information and Software" for a link to this software.

If you are unable to resolve your server problems on your own, see "Getting Help" for assistance.

Resetting the System

Before going through in-depth troubleshooting, first attempt to perform a reset of your system using one of the following methods.

To do this:	Press:
Soft boot reset to clear the system memory and reload the operating system.	<Ctrl+Alt+Del>
Clear system memory, restart POST, and reload the operating system.	Reset button
Cold boot reset. Turn the system power off and then on. This clears system memory, restarts POST, reloads the operating system, and halts power to all peripherals.	Power off/on

Problems following Initial System Installation

Problems that occur at initial system startup are usually caused by an incorrect installation or configuration. Hardware failure is a less frequent cause. If the problem you are experiencing is with a specific software application, see "Problems with Newly Installed Application Software".

First Steps Checklist

- ❑ Is AC power available at the wall outlet?
- ❑ Are the power supplies plugged in? Check the AC cable(s) on the back of the chassis and at the AC source.
- ❑ Are all cables correctly connected and secured?
- ❑ Are the processors fully seated in their sockets on the server board?
- ❑ Are all standoffs in the proper location and not touching any components, causing a potential short?
- ❑ Are all add-in PCI boards fully seated in their slots on the server board?
- ❑ Are all jumper settings on the server board correct?
- ❑ Are all jumpers and switch settings on add-in boards and peripheral devices correct? To check these settings, see the manufacturer's documentation that comes with them. If applicable, ensure that there are no conflicts—for example, two add-in boards sharing the same interrupt.

- ❑ Are all peripheral devices installed correctly?
- ❑ If the system has a hard disk drive, is it properly formatted or configured?
- ❑ Are all device drivers properly installed?
- ❑ Are the configuration settings made in Setup correct?
- ❑ Is the operating system properly loaded? See the operating system documentation.
- ❑ Did you press the system power on/off switch on the front panel to turn the server on (power on light should be lit)?
- ❑ Is the system power cord properly connected to the system and plugged into a NEMA 5-15R outlet for 100-120 V or a NEMA 6-15R outlet for 200-240 V ?
- ❑ Are all integrated components from the tested components lists? Check the tested memory, and chassis lists, as well as the supported hardware and operating system list. See "Additional Information and Software" for links to the tested component lists.

Hardware Diagnostic Testing

This section provides a more detailed approach to identifying a hardware problem and locating its source.

⚠ CAUTION

Turn off devices before disconnecting cables: Before disconnecting any peripheral cables from the system, turn off the system and any external peripheral devices. Failure to do so can cause permanent damage to the system and/or the peripheral devices.

1. Turn off the system and all external peripheral devices. Disconnect each device from the system, except for the keyboard and the video monitor.
2. Make sure the system power cord is plugged into a properly grounded AC outlet.
3. Make sure your video display monitor and keyboard are correctly connected to the system. Turn on the video monitor. Set its brightness and contrast controls to at least two thirds of their maximum ranges (see the documentation supplied with your video display monitor).
4. If the operating system normally loads from the hard disk drive, make sure there is no diskette in drive A and no CD-ROM disk in the CD-ROM drive.
5. If the power LED does light, attempt to boot from a floppy diskette or from a CD-ROM disk.
6. Turn on the system. If the power LED does not light, see "Power Light Does Not Light".

Verifying Proper Operation of Key System Lights

As POST determines the system configuration, it tests for the presence of each mass storage device installed in the system. As each device is checked, its activity light should turn on briefly. Check for the following:

- ❑ Does the diskette drive activity light turn on briefly? If not, see "Diskette Drive Activity Light Does Not Light".
- ❑ If system LEDs are illuminated, see "LED Information" for a description of the light and steps to take to correct the problem.

Confirming Loading of the Operating System

Once the system boots up, the operating system prompt appears on the screen. The prompt varies according to the operating system. If the operating system prompt does not appear, see "No Characters Appear on Screen".

Specific Problems and Corrective Actions

This section provides possible solutions for these specific problems:

- Power light does not light.
- No characters appear on screen.
- Characters on the screen appear distorted or incorrect.
- System cooling fans do not rotate.
- Diskette drive activity light does not light.
- Hard disk drive activity light does not light.
- CD-ROM drive activity light does not light.
- There are problems with application software.
- The bootable CD-ROM is not detected.

Try the following solutions in the order given. If you cannot correct the problem, contact your service representative or authorized dealer for help.

Power Light Does Not Light

Check the following:

- ❑ Did you press the power-on button?
- ❑ Is the system operating normally? If so, the power LED might be defective or the cable from the front panel to the server board might be loose.
- ❑ Have you securely plugged the server AC power cord into the power supply?
- ❑ Is the power supply correctly set to 110V or 235V, depending on your power output?
- ❑ Will other items plugged into the same power outlet function correctly?
- ❑ Some ATX power supplies have a power switch on the back of the power supply, next to the fan. If your system has one, is it turned on?

- ❑ Remove all add-in cards and see if the system boots. If successful, add the cards back in one at a time with a reboot between each addition.
- ❑ Make sure the memory DIMMs comply with the system requirements.
- ❑ Make sure the memory DIMMs have been populated according to the system requirements.
- ❑ Remove the memory DIMMs and re-seat them.
- ❑ Make sure the processor(s) comply with the system requirements.
- ❑ Make sure the processor(s) have been populated according to the system requirements.
- ❑ Remove the processor(s) and re-seat them.
- ❑ Make sure the chassis standoffs are installed only below mounting holes. Misplaced standoffs can contact the pins on the bottom of the server board and cause a short.

No Characters Appear on Screen

Check the following:

- ❑ Is the keyboard functioning? Test it by turning the “Num Lock” function on and off to make sure the Num Lock light is functioning.
- ❑ Is the video monitor plugged in and turned on? If you are using a switch box, is it switched to the correct system?
- ❑ Are the brightness and contrast controls on the video monitor properly adjusted?
- ❑ Is the video monitor signal cable properly installed?
- ❑ Does this video monitor work correctly if plugged into a different system?
- ❑ Is the on-board video controller enabled in the BIOS?
- ❑ Remove all add-in cards and see if the video returns. If successful, add the cards back in one at a time with a reboot between each addition.
- ❑ Make sure the memory DIMMs comply with the system requirements.
- ❑ Make sure the memory DIMMs have been populated according to the system requirements.
- ❑ Carefully remove the memory DIMMs and re-seat them.
- ❑ Make sure the processor(s) comply with the system requirements.
- ❑ Make sure the processor(s) have been populated according to the system requirements.
- ❑ Carefully remove the processor(s) and re-seat them.

If you are using an add-in video controller board, do the following:

1. Verify that the video works using the on-board video controller.
2. Verify that the video controller board is fully seated in the server board connector.
3. Reboot the system for changes to take effect.
4. If there are still no characters on the screen after you reboot the system and POST emits a beep code, write down the beep code you hear. This information is useful for your service representative.
5. If you do not receive a beep code and characters do not appear, the video display monitor or video controller may have failed. Contact your service representative or authorized dealer for help.

Characters Are Distorted or Incorrect

Check the following:

- ❑ Are the brightness and contrast controls properly adjusted on the video monitor? See the manufacturer's documentation.
- ❑ Are the video monitor's signal and power cables properly installed?
- ❑ Does this video monitor work correctly if plugged into a different system?

System Cooling Fans Do Not Rotate Properly

If the system cooling fans are not operating properly, it is an indication of possible system component failure.

Check the following:

- ❑ Is the power-on light lit?
- ❑ If your system has LED lights for the fans, is one or more of these LEDs lit?
- ❑ Are any other front panel LEDs lit?
- ❑ Have any of the fan motors stopped? Use the server management subsystem to check the fan status.
- ❑ Have your fans speeded up in response to an overheating situation?
- ❑ Have your fans speeded up in response to a fan that has failed?
- ❑ Are the fan power connectors properly connected to the server board?
- ❑ Is the cable from the front panel board connected to both the front panel board and the server board?
- ❑ Are the power supply cables properly connected to the server board?
- ❑ Are there any shorted wires caused by pinched-cables or have power connector plugs been forced into power connector sockets the wrong way?

Diskette Drive Activity Light Does Not Light

Check the following:

- ❑ Are the diskette drive's power and signal cables properly installed?
- ❑ Are all relevant switches and jumpers on the diskette drive set correctly?
- ❑ Is the diskette drive properly configured?
- ❑ Is the diskette drive activity light always on? If so, the signal cable may be plugged in incorrectly.

If you are using the on-board diskette controller, use BIOS Setup to make sure that "On-board Floppy" is set to "Enabled." If you are using an add-in diskette controller, make sure that "On-board Floppy" is set to "Disabled."

CD-ROM Drive or DVD-ROM Drive Activity Light Does Not Light

Check the following:

- ❑ Are the CD-ROM/DVD-ROM drive's power and signal cables properly installed?
- ❑ Are all relevant switches and jumpers on the drive set correctly?
- ❑ Is the drive properly configured?

Cannot Connect to a Server

- ❑ Make sure the network cable is securely attached to the correct connector at the system back panel.
- ❑ Try a different network cable.
- ❑ Make sure you are using correct and current network drivers. See "Additional Information and Software" for a link to the current drivers.
- ❑ Make sure the driver is loaded and the protocols are bound.
- ❑ Make sure the hub port is configured for the same duplex mode as the network controller.
- ❑ Make sure the correct networking software is installed.
- ❑ If you are directly connecting two servers (without a hub), you will need a crossover cable.
- ❑ Check the network controller LEDs next to the NIC connectors.

Problems with Network

The server hangs when the drivers are loaded.

- ❑ Certain drivers may require interrupts that are not shared with other PCI drivers. For these drivers, it may be necessary to alter settings so that interrupts are not shared. See the documentation that came with your PCI card(s) for information on changing interrupts.

Diagnostics pass but the connection fails.

- ❑ Make sure the network cable is securely attached.
- ❑ Make sure you specify the correct frame type in your NET.CFG file.

The controller stopped working when an add-in adapter was installed.

- ❑ Make sure the cable is connected to the port from the on-board network controller.
- ❑ Make sure your BIOS is current. See "Additional Information and Software" for a link to the current version.
- ❑ Make sure the other adapter supports shared interrupts. Make sure your operating system supports shared interrupts.
- ❑ Try reseating the add-in adapter.

The add-in adapter stopped working without apparent cause

- ❑ Try reseating the adapter first; then try a different slot if necessary.
- ❑ The network driver files may be corrupt or deleted. Delete and then reinstall the drivers.
- ❑ Run diagnostics.

System Boots when Installing PCI Card

System Server Management features require full-time “standby” power. This means some parts of the system have power going to them whenever the power cord is plugged in, even if you have turned the system power off with the power button on the front panel. If you install a PCI card with the AC power cord plugged in, a signal may be sent to reboot the system. Before installing a PCI card, you should always:

- ❑ Turn off the server power by using the power button on the front of the system.
- ❑ Unplug the AC power cord(s) from the server.

Problems with Newly Installed Application Software

Problems that occur when you run new application software are usually related to the software, not the server hardware. Faulty equipment is unlikely, especially if other software runs correctly.

Check the following:

- ❑ Make sure the system meets the minimum hardware requirements for the software. See the software documentation.
- ❑ Make sure the software is properly installed and configured for the system. See the software documentation.
- ❑ Use only an authorized copy. Unauthorized copies often do not work.
- ❑ If you are running the software from a diskette, CD-ROM or DVD-ROM, try a different diskette.
- ❑ Make sure the correct device drivers are installed.

If the problems persist, contact the software vendor’s customer service representative.

Problems with Application Software that Ran Correctly Earlier

Problems that occur after the system hardware and software have been running correctly sometimes indicate equipment failure. However, they can also be caused by file corruption or changes to the software configuration.

Check the following:

- ❑ If you are running the software from a diskette, CD-ROM or DVD-ROM, try a different diskette.
- ❑ Uninstall and reinstall the software. Make sure all necessary files are installed.
- ❑ If the problems are intermittent, there may be a loose cable, dirt in the keyboard (if keyboard input is incorrect), a marginal power supply, or other random component failures.
- ❑ If you suspect that a transient voltage spike, power outage, or brownout might have occurred, reload the software and try running it again. Symptoms of voltage spikes include a flickering video display, unexpected system reboots, and the system not responding to user commands.

✏ **NOTE**

Random errors in data files: If you are getting random errors in your data files, they may be getting corrupted by voltage spikes on your power line. If

you are experiencing any of the above symptoms that might indicate voltage spikes on the power line, you may want to install a surge suppressor between the power outlet and the system power cord.

Devices are not Recognized under Device Manager (Windows* Operating System)

The Windows* operating systems do not include all of the drivers for the Intel® chipsets, on-board NICs, and other components. See "Additional Information and Software".

Hard Drive(s) Are Not Recognized

Check the following:

- ❑ Make sure the drive is not disabled in BIOS Setup.
- ❑ Make sure the drive is connected correctly and is plugged into the power supply.
- ❑ Make sure the drive is compatible. See the Tested Hardware and Operating System List for tested drives.
- ❑ Make sure you have not exceeded the power budget for the server. See "Additional Information and Software" for a link to software to check your power budget.
- ❑ If using SCSI drives, verify that each SCSI ID number is uniqe on the SCSI bus & that both ends of the SCSI chain are terminated. See your drive documentation for details on setting the SCSI ID for your drives.
- ❑ If using IDE drives, verify that the master/slave settings are set correctly. See your drive documentation for details on setting the master/slave settings.
- ❑ If using a RAID configuration with SCSI or SATA drives, make sure the RAID card is installed correctly and properly configured.

Bootable CD-ROM Is Not Detected

Check the following:

- ❑ Make sure the BIOS is configured to allow the CD-ROM to be the first bootable device.

LED Information

The Intel® Server Board SE7520BD2 includes LEDs that can aid in troubleshooting your system. A table of these LEDs with a description of their use can be found in the *Intel® Server Board SE7520BD2 Technical Product Specification* at:
http://support.intel.com/support/motherboards/server/se7520bd2/sb/CS-010682.htm

BIOS POST Beep Codes

Boot Block Error Beep Codes

Table 7. Boot Block Error Beep Codes

Number of Beeps	Description
1	Insert diskette in floppy drive A:
2	'AMIBOOT.ROM' file not found in root directory of diskette in A:
3	Base Memory error
4	Flash Programming successful
5	Floppy read error
6	Keyboard controller BAT command failed
7	No Flash EPROM detected
8	Floppy controller failure
9	Boot Block BIOS checksum error
10	Flash Erase error
11	Flash Program error
12	'AMIBOOT.ROM' file size error
13	BIOS ROM image mismatch (file layout does not match image present in flash device)
1 long beep	Insert diskette with AMIBOOT.001 File for Multi-Disk Recovery

POST Error Beep Codes

The following table lists the POST error beep codes. Prior to system video initialization, the BIOS uses these beep codes to inform users of error conditions.

Table 8. POST Error Beep Codes

Number of Beeps	Description
1	Memory refresh timer error
2	Parity error in base memory (first 64KB block)
3	Base memory read / write test error
4	Motherboard timer not operational
5	Processor error
6	8042 Gate A20 test error (cannot switch to protected mode)
7	General exception error (processor exception error)
8	Display memory error (system video adapter)
9	ROM checksum error
10	CMOS shutdown register read/write error
11	Cache memory test failed

BIOS Beep Codes

Table 9. BIOS Beep Codes

Number of Beeps	Troubleshooting Action
1, 2 or 3	Reseat the memory, or replace with known good modules.
4-7, 9-11	Fatal error indicating a serious problem with the system. Consult your system manufacturer. Before declaring the motherboard beyond all hope, eliminate the possibility of interference by a malfunctioning add-in card. Remove all expansion cards cards except the video adapter. - If beep codes are generated even when all other expansion cards are absent, consult your system manufacturer's technical support. - If beep codes are not generated when all other expansion cards are absent, one of the add-in cards is causing the malfunction. Insert the cards back into the system one at a time until the problem happens again. This will reveal the malfunctioning add-in card.
8	If the system video adapter is an add-in card, replace or reseat the video adapter. If the video adapter is an integrated part of the system board, the board may be faulty.

Regulatory and Compliance Information

Product Regulatory Compliance

Product Safety Compliance

The Intel® Server Board SE7520BD2 complies with the following safety requirements:

- UL60950 – CSA 60950(USA / Canada)
- EN60950 (Europe)
- IEC60950 (International)
- CB Certificate & Report, IEC60950 (report to include all country national deviations)
- GOST R 50377-92 – Listed on one System License (Russia)
- Belarus License – Listed on System License (Belarus)
- CE - Low Voltage Directive 73/23/EEE (Europe)
- IRAM Certification (Argentina)

Product EMC Compliance – Class A Compliance

Note: Legally the product is required to comply with Class A emission requirements as it is intended for a commercial type market place. Intel targets 10db margin to Class A Limits

The Intel® Server Board SE7520BD2 has been tested and verified to comply with the following electromagnetic compatibility (EMC) regulations when installed in a compatible Intel® host system. For information on compatible host system(s), refer to Intel's Server Builder Web site or contact your local Intel representative.

- FCC /ICES-003 - Emissions (USA/Canada) Verification
- CISPR 22 – Emissions (International)
- EN55022 - Emissions (Europe)
- EN55024 - Immunity (Europe)
- EN61000-3-2 (Europe)
- CE – EMC Directive 89/336/EEC (Europe)
- AS/NZS 3548 Emissions (Australia / New Zealand)
- BSMI CNS13438 Emissions (Taiwan)
- GOST R 29216-91 Emissions - Listed on one System License (Russia)
- GOST R 50628-95 Immunity –Listed on one System License (Russia)
- Belarus License – Listed on one System License (Belarus)
- RRL MIC Notice No. 1997-41 (EMC) & 1997-42 (EMI) (Korea)

Certifications/Registrations/Declarations

- UL Certification (US/Canada)
- CE Declaration of Conformity (CENELEC Europe)
- FCC/ICES-003 Class A Attestation (USA/Canada)
- C-Tick Declaration of Conformity (Australia)
- MED Declaration of Conformity (New Zealand)
- BSMI Certification (Taiwan)
- GOST – Listed on one System License (Russia)
- Belarus – Listed on one System License (Belarus)
- RRL Certification (Korea)
- Ecology Declaration (International)

Product Regulatory Compliance Markings

This product is marked with the following Product Certification Markings:

Table 10. Product Certification Markings

Regulatory Compliance	Country	Marking
UL Mark	USA/Canada	
CE Mark	Europe	
FCC Marking (Class A)	USA	This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. Manufactured by Intel Corporation
EMC Marking (Class A)	Canada	CANADA ICES-003 CLASS A CANADA NMB-003 CLASSE A
BSMI Marking (Class A)	Taiwan	 警告使用者： 這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策
RRL MIC Mark	Korea	

Electromagnetic Compatibility Notices

FCC (USA)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions related to the EMC performance of this product, contact:

Intel Corporation
5200 N.E. Elam Young Parkway
Hillsboro, OR 97124-6497
1-800-628-8686

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit other than the one to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment. The customer is responsible for ensuring compliance of the modified product.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class A or B limits may be attached to this computer product. Operation with noncompliant peripherals is likely to result in interference to radio and TV reception.

All cables used to connect to peripherals must be shielded and grounded. Operation with cables, connected to peripherals, that are not shielded and grounded may result in interference to radio and TV reception.

Industry Canada (ICES-003)

Cet appareil numérique respecte les limites bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: “Apparelis Numériques”, NMB-003 édictee par le Ministre Canadian des Communications.

English translation of the above notice: This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled: “Digital Apparatus,” ICES-003 of the Canadian Department of Communications.

Europe (CE Declaration of Conformity)

This product has been tested in accordance to, and complies with the Low Voltage Directive (73/23/EEC) and EMC Directive (89/336/EEC). The product has been marked with the CE Mark to illustrate its compliance.

Taiwan Declaration of Conformity (BSMI)

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策

The BSMI Certification Marking and EMC warning is located on the outside rear area of the product.

Korean Compliance (RRL)



1. 기기의 명칭(모델명) :
2. 인증번호 :
3. 인증받은 자의 상호 :
4. 제조년월일:
5. 제조자/제조국가 :

English translation of the above notice:

1. Type of Equipment (Model Name): On License and Product
2. Certification No.: On RRL certificate. Obtain certificate from local Intel representative
3. Name of Certification Recipient: Intel Corporation
4. Date of Manufacturer: Refer to date code on product
5. Manufacturer/Nation: Intel Corporation/Refer to country of origin marked on product

Getting Help

World Wide Web

http://support.intel.com/support/motherboards/server/SE7520BD2

Telephone

All calls are billed US $25.00 per incident, levied in local currency at the applicable credit card exchange rate plus applicable taxes. (Intel reserves the right to change the pricing for telephone support at any time without notice).

Before calling, fill out an Intel Server Issue Report Form. A sample form is provided on the following pages. However, for the fastest service, please submit your form via the Internet.

In U.S. and Canada	1-800-404-2284		
In Europe			
UK	0870 6072439	Finland	9 693 79297
France	01 41 918529	Denmark	38 487077
Germany	069 9509 6099	Norway	23 1620 50
Italy	02 696 33276	Sweden	08 445 1251
Spain	91 377 8166	Holland	020 487 4562
Belgium	02 714 3182		
In Asia-Pacific region			
Australia	1800 649931	Indonesia	803 65 7249
Hong Kong	852 2 844 4456	Malaysia	1 800 80 1390
Korea	822 767 2595	New Zealand	0800 444 365
China	800 820 1100 (toll-free) 8 621 33104691 (not toll-free)	Pakistan Philippines	632 63684 15 (IDD via Philippines) 1 800 1 651 0117
Singapore	65 6213-1311	Thailand	1 800 631 0003
India	0006517 2 68303634 (manual toll-free. From India, you need an IDD-equipped telephone)	Vietnam Myanmar Cambodia	632 6368416 (IDD via Philippines) 63 2 636 9796 (via Philippines) 63 2 636 9797 (via Philippines)
Taiwan	2 2545-1640		
In Japan			
0120 868686 (Domestic)		81 298 47 0800 (outside country)	

In Latin America

Brazil	001-916 377 0180
Mexico	Contact AT&T USA at 001 800 462 628 4240. Once connected, dial 800 843 4481
Colombia	Contact AT&T USA at 01 800 911 0010. Once connected, dial 800 843 4481
Costa Rica	Contact AT&T USA at 0 800 0 114 114. Once connected, dial 800 843 4481
Panama	Contact AT&T USA at 00 800 001 0109. Once connected, dial 800 843 4481
Chile (Easter Island)	Contact AT&T USA at 800 800 311. Once connected, dial 800 843 4481
Chile (Mainland and Juan)	Contact AT&T USA at 800 225 288. Once connected, dial 800 843 4481
Miami	1 800 621 8423
Ecuador (Andimate)	Contact AT&T USA at 1 999 119. Once connected, dial 800 843 4481
Ecuador (Pacifictel)	Contact AT&T USA at 1 800 225 528. Once connected, dial 800 843 4481
Guatemala	Contact AT&T USA at 99 99 190. Once connected, dial 800 843 4481
Venezuela	Contact AT&T USA at 0 800 2255 288. Once connected, dial 800 843 4481
Argentina	Contact AT&T USA at 0-800 222 1288. Once connected, dial 800 843 4481
Paraguay	001 916 377 0114
Peru	001 916 377 0114
Uruguay	001 916 377 0114

For an updated support contact list, see *http://www.intel.com/support/9089.htm/*

Intel® Server Issue Report Form

Date Submitted: _____

Company Name: _____

Contact Name: _____

Email Address: _____

Intel Server Product: _____

Brief Problem Description. Provide a brief description below. See the last page for space to include a detailed problem description.

_____

_____

_____

Board / Chassis Information

Baseboard Revision – PBA#:	**DIMM Configuration**
Baseboard Serial Number:	DIMM1B MB, Vendor/part number
CPU1 Speed/Stepping/Spec:	DIMM1A MB, Vendor/part number
CPU2 Speed/Stepping/Spec:	DIMM2B MB, Vendor/part number
System BIOS Version:	DIMM2A MB, Vendor/part number
mBMC Firmware Version	DIMM3A MB, Vendor/part number
HSC Firmware Version:	DIMM3B MB, Vendor/part number
Chassis Model	DIMM4A MB, Vendor/part number
❒ **Intel® Server Chassis SC5300 Base**	DIMM4B MB, Vendor/part number
❒ **Intel® Server Chassis SC5300LX**	
❒ **Intel® Server Chassis SC5300 BRP**	
❒ **Intel® Entry Server Chassis SC5275-E**	
❒ **Intel® Entry Server Chassis SC5295-E DP**	
❒ **Intel® Entry Server Chassis SC5295-E BRP**	
❒ **Other Reference Chassis (Vendor / Model):**	
Board Accessories Installed	
❒ **Intel® Management Module, Advanced or Professsional (specify) Indicate the BMC firmware version**	

Operating System Information

Operating System _____

Version_____

Service Pack / Kernel Version_____

General Information. Check each box below that is used, and provide the requested information.

Peripheral	Card or Peripheral Description	Driver Revision	IRQ #	I/O Base Address	FW Rev#
❒ PCI-X* 100 Slot 1					
❒ PCI-X 100 Slot 2					
❒ PCI 32/33 Slot 3					
❒ PCI-Express* x8 (x4 speed) Slot 4					
❒ PCI-Express x8 Slot 5					
❒ PCI-X 133 Slot 6					
Video					
❒ On-board Video					
❒ Add-in Video					
NIC					
❒ On-board NIC1 (10/100/1000 Mb)					
❒ On-board NIC2 (10/100/1000Mb)					

Hard Drive Information:

❒ IDE # of drives installed: _____
Make/Model/Firmware Revision _____

❒ SCSI # of drives installed: _____
Make/Model/Firmware Revision _____

❒ SATA # of drives installed: _____
Make/Model/Firmware Revision _____

Complete Issue Description

In the space below, provide a **complete** description of the steps used to reproduce the issue or a complete description of where the problem can be found. Please also include any details on troubleshooting already done.